



Firebird AW Hydraulic Oil

Phillips 66® Firebird AW Hydraulic Oil is an environmentally responsible anti-wear hydraulic oil formulated with a blend of high-quality conventional and re-refined base stocks. It is recommended for use in a wide variety of industrial, mobile and marine hydraulic system applications. The use of re-refined base stocks helps lessen the environmental impact of disposal of used oil.

Firebird AW Hydraulic Oil is formulated to provide excellent wear protection for hydraulic pumps and motors, and to protect hydraulic system components against rust and corrosion. It has good oxidation resistance at high temperatures to minimize deposit formation and provide long service life. It has good water-separating properties to minimize the formation of emulsions, and is resistant to excessive foam buildup that can cause poor or sluggish hydraulic system response.

Firebird AW Hydraulic Oil meets the performance requirements of all major hydraulic pump manufacturers, and is recommended for use in all types of high-pressure, high-speed hydraulic pumps.

Applications

- Hydraulic systems on industrial, mobile and marine equipment
- Automated machine tools
- Hydraulic elevators, hoists, presses and floor jacks
- Marine cargo winches and steering systems
- Mobile construction equipment
- Service station lifts
- Air tools and other pneumatic equipment lubricated through air line lubricators
- Chain drives
- Electric motor bearings

Firebird AW Hydraulic Oil meets the requirements of the following industry and OEM specifications:

- DIN 51524 Part 2, Anti-wear Hydraulic Oils, Type HLP
- Eaton-Vickers I-286-S, M-2950-S
- German Steel Industry SEB 181222
- ISO 11158:1997, Family H (Hydraulic Systems), Type HM
- Parker Hannifin (Denison) HF-0, HF-1, HF-2
- U.S. Steel 127

**Anti-wear
Hydraulic Oil
Formulated with
Re-refined Base
Stocks**

**KEEPING THE
WORLD
RUNNING
SMOOTHLY.**





Features/Benefits

- Excellent wear protection for hydraulic pumps and motors
- Good oxidation resistance
- Protects against rust and corrosion
- Good water-separating properties
- Good foam resistance
- Lessens the environmental impact of used oil disposal

Firebird AW Hydraulic Oil

Typical Properties			
ISO Grade	32	46	68
Specific Gravity @ 60°F	0.865	0.867	0.876
Density, lbs/gal @ 60°F	7.22	7.22	7.29
Color, ASTM D1500	1.0	1.0	3.0
Flash Point (COC), °C (°F)	224 (435)	243 (469)	241 (466)
Pour Point, °C (°F)	-36 (-33)	-36 (-33)	-30 (-22)
Viscosity			
cSt @ 40°C	32.0	46.0	68.0
cSt @ 100°C	5.4	6.8	8.6
SUS @ 100°F	150	214	315
SUS @ 210°F	44.0	48.5	54.5
Viscosity Index	102	102	97
Acid Number, ASTM D974, mg KOH/g	0.41	0.41	0.41
Copper Corrosion, ASTM D130	1a	1a	1a
Demulsibility, ASTM D1401, minutes to pass	20	15	10
Foam Test, ASTM D892, Seq. I, mL	0/0	0/0	0/0
FZG Scuffing Test, ASTM D5182, Failure Load Stage	11	11	11
Oxidation Stability, TOST, ASTM D943-04a, hours	>4,000	>4,000	>2,500
Rust Test, ASTM D665 A&B	Pass	Pass	Pass
Zinc, wt %	0.043	0.043	0.043
Re-refined Content, Finished Oil, vol %	56	56	56

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/EN/products/Pages/MSDS.aspx>.